SOFTWARE RELEASE NOTICE

SYSTEM: Automated Tracking Station (ATS) **RELEASE: 3.0/3.1**

DATE: February 10, 2000

MODIFICATION DESCRIPTION: Release 3.0

(1) Automation of the AWOTS receiver node is new development contributed by Scientific-Atlanta personnel in two phases and released for CSC review in September 1999. Automation of the receiver node is accomplished similarly to the method utilized with the SCC. Remote socket connections are initiated between the Master PC and receiver node, schedule and ephemeris files are delivered via FTP and load commands are sent prior to AOS. This enhancement supports the receiver node located in AWOTS at the Wallops Ground Station (SGS). The software will not affect ATS operations at other NASA ground stations. This work was completed under Scientific-Atlanta statement-of-work item #3, request-for-support (RFS) 99-046 and EPGN CCR 218.

Discrepancy Reports (DRs) Resolved: None

EPGN Configuration Control Requests (CCRs) Resolved: CCR 218.

Software Request-for-Supports (RFSs) Resolved: RFS 99-046.

Note: ATS 3.0 was not installed because of Landsat7 Tiger Team testing through October 1999 and software freezes invoked in November 1999. These changes will be integrated into the release of ATS 3.1.

MODIFICATION DESCRIPTION: Release 3.1

(2) Station status client identification is moved to the profile. This change allows status to be transmitted only to interested clients. The Landsat7 project will no longer receive QuikSCAT status. The ATS *StatusClientRegister.exe* application and *StatusClients.reg* text file are obsolete. Operations personnel will be trained on the method required by the *ProfileEditor.exe* application to identify station status clients. This information must be added to all existing ATS profiles. (RFS 99-047a1 and EPGN CCR 219)

(3) Station status transmission is automated. No operator menu selections are required to initiate the remote socket connections. Status transmission begins automatically at support initialization (typically, AOS – 8 minutes). It also is terminated automatically at takedown at approximately 30 seconds after LOS. This change relieves operations personnel of the required action. Station status reporting responsibilities are moved to the *MonitorAndControl.exe* application; the *StationStatusBroadcaster.exe* is obsolete. The ATS startup question "*Make this the Reporting Master?*" has been removed. (RFS 99-047a2 and SGS DRs 99-019 and 99-043)

(4) WFF Tracking Data Formatter (WffTDF) support ID codes greater than 8191 are allowed for input using the *ProfileEditor.exe* application. The maximum acceptable value entered in a profile is 32768. (RFS 99-053a and EPGN CCRs 220, 221)

(5) Improved schedule processing. The current contents of the master schedule (*wotrs.mas*) are processed automatically at ATS startup. This enhancement ensures that the most recent schedule will be processed and displayed, even when WOTIS files have been delivered during ATS down periods. Operator intervention to execute the *ManualNotification.exe* utility is no longer required at ATS startup. An intermittent bug causing multiple updates of the *Operational Schedule* window and delayed processing of large WOTRS schedules to kill ATS at support initialization has been fixed. (RFS 99-053b and AGS DR 99-0202, WGS DRs 99-188, 99-243, 99-262 and SGS DRs 99-124 , 99-197)

(6) The file write option was removed from the *StationStatusDisplay.exe* (SSD) application in order to conserve disk space. The ATS version number is also displayed on the SSD window. (RFS 99-053c)

(7) The SCC message log file, *message.file*, is retrieved by ATS at takedown and archived for thirty days. (RFS 99-053d)

(8) UTDF files archived on the Master are removed after thirty days. (RFS 99-053e)

MODIFICATION DESCRIPTION: Release 3.1 (continued)

(9) The annoying bold, growing font ("large marge" as reported by AGS personnel) displayed in ATS windows has been fixed. (RFS 99-053f)

(10) Immediate, simple TR code changes are allowed. This enhancement allows operations personnel the capability to change an incorrect TR code without requesting delivery of a new WOTIS schedule files. It also replaces the dual task of deleting and re-inserting a new support. (RFS 99-053g and SGS DR 99-088)

(11) ATS will no longer load the *Default* profile, which usually contains incorrect device settings, automatically for scheduled supports missing profiles. Instead, the user is notified of such events in the *Operational Schedule* window and repeatedly warned in the message log window at an interval of 120 seconds. ATS will repeat the warning until the operator creates a matching profile or deletes the support. The warning will also cease when AOS is reached. (SGS DR 99-059)

(12) Brouwer, IIRV and true-of-date ephemeris associated with a schedule support are displayed in the *Event Details* window. (RFS 99-038)

(13) The ATS block diagram window close ("X") icon now terminates ATS correctly. A bug previously stopped only the *MonitorAndControl.exe* application; other background processes continued to execute unknowingly to operations personnel. Stopping ATS and re-starting it using this method has caused multiple copies of some processes to persist. (AGS DR 99-0202)

(14) Erroneous device error reporting on the Master block diagram has been fixed. (SGS DRs 99-039, 99-050, 99-051, 99-106, 99-126, 99-133)

(15) The *PassResultsCompiler.exe* application will compile the post-pass summary file immediately after PTP takedown or ten minutes after LOS, whichever comes first. This enhancement allows post-pass summary files to be created as quickly as possible, but respects slow, remote unloads of large desktops. ATS supports with no PTP requirements will compile the post-pass summary file sixty seconds after LOS (SGS DR 99-052).

(16) The occasional failure to update the *Operational Schedule* window after support takedown and during *PassResultsCompiler.exe* activity has been fixed (AGS DRs 99-0202, 99-0207, 99-0218 and SGS DRs 99-044, 99-059, 99-120).

(17) ATS resource setup is requested immediately after initialization. ATS resource takedown is also requested immediately after stop. These two changes make more efficient use of idle periods during the automation cycle. They improve ATS turnaround by using requiring less time to setup and takedown equipment during the given support period. The user-prescribed resource setup time in ATS profiles is ignored. (EPGN CCR 225).

(18) Automation of the Apogee TDF model 2208. This device will replace the Wallops-built TDF, which occasionally displays lock-up problems during automation. Automation includes software to detect doppler valid periods by polling SCC exciter device status. Software is provided to automatically FTP the associated UTDF file to profile-defined clients. Operators will be trained for setup of the configuration file using the *ProfileEditor.exe* application. (RFS 99-037, EPGN CCR 222 and SGS DRs 99-105, 99-107, 99-112, 99-119, 99-122, 99-123 and AGS DRs 99-0180, 99-0185, 99-0194, 99-0199, 99-0230)

(19) "ASF" is recognized as an anticipated location for a Master PC. ATS expects "ASF" in WOTRS schedules. The letter 'F' will be included in all pass result (PRFF) and shipping information (SIFF) descriptive file tags. (RFS 99-035)

(20) A single, bi-directional TCP/IP socket service replaces the dual socket design for communication between the Master PC and data stripper device. This re-design allows reconnection without rebooting if communications are lost. (Scientific-Atlanta Statement-Of-Work item 15)

(21) The annoying ejection of the Metrum tape during changes from burst to streaming mode has been fixed. (CSOC RFS 99-006 and MGS DR 99-018)

(22) ATS checks for SCC-controlled tape units and space availability before scheduling X-band recorders at MGS. (RFS 99-039, EPGN CCR 224 and MGS DRs 99-172, 99-209, 99-091, 99-013)

(23) A profile option is added which forces the SCC to override given AOS from the Master. This option allows the SCC to use the most current ephemeris when generating the new AOS time. This profile editor option will be demonstrated to operations personnel. (RFS 99-047b EPGN CCR223 and MGS DRs 99-172, 99-209, 99-015)

MODIFICATION DESCRIPTION: **Release 3.1 (continued)**

Discrepancy Reports (DRs) Resolved:
SGS: 99-019, 99-039, 99-043, 99-044, 99-050, 99-051, 99-052, 99-059, 99-088, 99-105, 99-106, 99-107, 99-112, 99-119, 99-120, 99-122, 99-123, 99-124, 99-126, 99-133, 99-138 and 99-197.

AGS: 99-0180, 99-0185, 99-0194, 99-0202, 99-0207, 99-0218 and 99-0230.

WGS: 99-188, 99-243 and 99-262.

MGS: 99-013, 99-015, 99-018, 99-091, 99-172 and 99-209.

EPGN CCRs Resolved: 218, 219, 220, 221, 222, 223, 224 and 225

Software Request-for-Supports (RFSs) Resolved:
RFSs: (CSOC) 99-006, 99-035, 99-037, 99-038, 99-039, 99-047 and 99-053.

FILES AFFECTED:

ATS Core Applications:
(1) *c:\Master\MonitorAndControl.exe* (see SRN items 1, 3, 9, 10, 12, 13, 14, 17, 18, 19, 20, 22 and 23)
(2) *c:\Master\ProfileEditor.exe* (see SRN items 2, 4, 18 and 23)
(3) *c:\Master\Scheduler.exe* (see SRN items 5, 11 and 19)
(4) *c:\Master\PassResultsCompiler.exe* (see SRN items 7, 8, 15, 16, 18 and 19)
(5) *c:\Master\RNInterface.exe* (see SRN item 1)

ATS Utility/Editor Applications:
(6) *c:\Master\StationStatusDisplay.exe* (see SRN item 6)
(7) *c:\Master\ManualNotification.exe* (see SRN item 5)
(8) *c:\Master\TdfApogee2208.exe* (see SRN item 18)
(9) *c:\Node\TdfApogee2208.exe* (see SRN item 18)
(10) *c:\Node\RecorderMetrumBVLDS.exe* (see SRN item 21)
(11) *c:\Master\RecorderMetrumBVLDS.exe* (see SRN item 21)
(12) *c:\Master\ShippingReport.exe* (see item 19)

ATS Libraries:
(1) *c:\Master\OpTsApogee2208.dll* (see SRN item 18)
(2) *c:\Node\OpTsApogee2208.dll* (see SRN item 18)

Other:
(1) *c:\winnt\system\drivers\etc\hosts* (to add the ApogeeTDF IP address, hostname and alias *tdf*.
(2) *c:\Master\Station\Resources.dat* (to add the number of ApogeeTDF resource units.
(3) *c:\Node\WcDevTDFApogee2208.status* (status polling parameter = 0)

Obsolete Files (can be removed):
(1) *c:\Master\StatusClientRegister.exe* (see SRN item 2)
(2) *c:\Master\StationStatusBroadcaster.exe* (see SRN items 2 and 3)
(3) *c:\Master\Station\StatusClients.reg* (see SRN items 2 and 3)

Device status logging text files named *c:\Node*.status* are not affected.

YEAR-2000 ISSUES:

ATS 3.1 software changes will not violate any Year-2000 Master/Node integrity required for NASA computer systems.

DOCUMENTATION:

ATS 3.1 documentation is located at http://www.wff.nasa.gov/~ats/index.html.

ATS 3.1 changes can also be noted by starting ATS and selecting the menu *options Help->About (ApplicationName)->What's New.* The text files are viewable using the Windows utility *Notepad*. The following text files have been changed to provide this information:

(1) *c:\Master\Scheduler.txt*
(2) *c:\Master\MonitorAndControl.txt*
(3) *c:\Master\PassResultsCompiler.txt*
(4) *c:\Master\ProfileEditor.txt*

INSTALLATION PLAN/PROCEDURE:

ATS 3.1 is approximately 150 megabytes of executables, dynamic link libraries (DLLs) and text files. It is compressed using a NASA-licensed copy of WinZip 7.0 and archived on compact disc and a WFF file server. An 11-step installation procedure for either ground station is required:

(1) Request installation approval from the EPGN Configuration Control Board.
(2) Request a 3-hour block of time from WOTIS scheduling engineer Debbie Dukes (x2186) and notify ground station operations personnel.
(3) Backup the current ATS release 2.3 on Master and Nodes at c:\Master23 and c:\Node23.
(4) Copy the zipped ATS 3.1 file via FTP from the CD to remote ground station Master and Nodes. This step requires a network connection and approximately 30 minutes – 1 hour for FTP.
(5) Request ground stations operations to unzip the ATS 3.1 file on Master and Nodes.
(6) Add the station status client information to each profile. This can be accomplished by opening each profile using the *ProfileEditor* application, saving and closing. Software personnel can assist in this procedure if requested.
(7) Add the number of ApogeeTDF units (1) to the file *c:\Master\Station\Resources.dat file*.
(8) Add the ApogeeTDF configuration file, *TdfApogee22080.fdt*, to each profile.
(9) Remove all older operational profiles from c:\Master\OpProfiles.
(10) Add the ApogeeTDF IP address, hostname and alias *tdf* to *c:\winnt\system\drivers\etc\hosts*.
(11) Start ATS 3.1, demonstrate SRN item 1-23 changes and monitor testing with ground station operations. A 3-day test period monitored closely between ATS software representatives and operations is recommended.

ATS software personnel recommend installation immediately at the WFF and AGS ground stations in order to begin Apogee2208 TDF automation tests. MGS and SGS installations will follow after 3-day test periods at AGS and WFF. ATS 3.1 CDs will be mailed for on-site security following installation and testing.

VALIDATION PROCEDURES:

The ATS software team has completed limited testing of the software changes in the WFF N-161 lab. Full operational testing, however, is recommended at NASA ground stations using the 6-step procedure identified above.

KNOWN BUGS OR LIMITATIONS:

This release of ATS does not include software development or fixes for:
(1) ApogeeTDF status polling during recording session. Status polling during recordings will cause erratic device behavior. Apogee Lab personnel were notified in November, 1999, but no resolution was proposed.
(2) ATS device heartbeat status polling (RFS 99-048).
(3) Automation of the Aydin BPSK Demodulator Model 3329 (MGS DR 99-014).
(4) Automatic loading of profiles on demand for pre-pass tests.
(5) Automation of the Data Stripper Controller .
(6) MetrumBVLDS tape graphical user interface lock-ups (MGS DRs 98-126, 99-054, 99-093).
(7) Automatic conflict resolution for overlapping schedules.
(8) A scheduling utility containing orbit-propogated predicted support times.

HARDWARE REQUIREMENTS :

(no changes)

- Minimum Pentium-200 MHz for Master and Nodes.
- Minimum 128megabytes RAM
- 2 Gigabyte system drive
- Windows NT 4.0 (service pack 4)
- Devices connected to Node PCs via RS-232 port (and, in some cases an IEEE converter) on a Digibox. A Hewlett-Packard workstation (HP-UX 10.2) functions as an 11meter antenna control console.

COMMENTS:

Points of contact for ATS release 3.1 are David L. Davis/NASA (757-824-1444) and Jeffrey L. Dorman/CSC (757-824-2300).

APPROVAL:

The software modifications described in this release notice has been validated and accepted.

_____ _____
NASA EPGN Project Manager Date

_____ _____
NASA AWOTS/WGS Project Manager Date

SOFTWARE RELEASED:

The software modifications described in this release notice has been completed and released to ground station operations.

_____ _____
System Manager Date

_____ _____
NASA Program Monitor Date